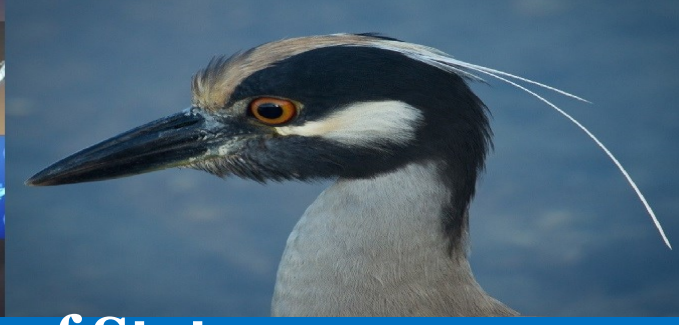

U.S. Department of State Middle East and North Africa Environment, Science, Technology & Health Hub Newsletter

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FIRST QUARTER 2016

First MESA Conference on Epigenetics and Genomics of Infectious Diseases

Photo credit: RSS. HRH Princess Sumaya and HE U.S. Ambassador Wells with conference participants

On March 7-9 Jordan's Royal Scientific Society (RSS) hosted a first-of-its-kind Middle East and South Asia (MESA) Conference on Epigenetics and Genomics of Infectious Diseases, in partnership with Gryphon Scientific, Metabiota, the U.S. Cooperative Biological Engagement Program, and the Office of Naval Research Global. The event, which was opened by Her Royal Highness Princess Sumaya bint El Hassan, President of Jordan's Royal Scientific Society, and U.S. Ambassador to Jordan Alice Wells, convened more than 100 scientists from 16 countries, focusing on life-sciences research to prevent, detect, and control infectious disease outbreaks. The MESA conference was the culmination of an almost three-year effort and true collaboration to hold a scientific conference on two emerging fields —epigenetics and genomics. These fields hold promise in uncovering how infectious diseases, like the Middle East Respiratory Syndrome, infect and cause disease in people, animals, or plants. This information is critical to enhancing local, national, and regional action to prevent, detect, and respond to infectious diseases. The conference promoted U.S. and regional collaboration on health research. U.S. participants included representatives from the National Academies of Science, National Institutes of Health, the U.S. Department of Agriculture, and National Science Foundation, who shared their perspectives on advancing university and industry partnerships, and funding opportunities for research.

Sustainability Week Highlights Post-COP Efforts in the Region

Photo credit: ESTH Hub,

Abu Dhabi hosted the 2017 Sustainability Week January 18-21, the first major international water, energy and environment conference in the Middle East and North Africa (MENA) after conclusion of the UN Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP21) in Paris. Sustainability Week included the International Water Summit, World Future Energy Summit (WFES), and the second annual Blue Economy Summit targeting ocean conservation and sustainable growth for coastal economies. Regional participants highlighted their efforts to meet climate change targets outlined in their Intended Nationally Determined Contributions (INDCs) submitted to the UNFCCC Secretariat. Several INDCs from the region feature enhanced renewable energy investment and research. The UAE aims to generate 24% of its energy needs from renewables by 2021 and committed to doubling investment in renewable energy research as part of the Mission Innovation Project announced at the COP21 in Paris. Saudi Arabia, Kuwait and Qatar have also set plans to introduce new mechanism in 2017 and 2018 that will phase out fossil fuel subsidies to reduce demand and associated greenhouse gas emissions. New financing trends are emerging in the Gulf markets including a "Green Sukuk" Islamic bond market to support clean energy investment and climate-related projects.

This report is published by the Regional Environment, Science, Technology and Health Hub Office in U.S. Embassy Amman, Jordan.

Please visit the State Department's Bureau of Oceans and International Environmental and Scientific Affairs on Facebook and www.state.gov.

A View from the Region: Science Diplomacy in the Middle East

Her Royal Highness Princess Sumaya bint El Hassan, President of the Royal Scientific Society (RSS) of Jordan, visited Washington, DC in February 2016 to represent the RSS at the annual meeting of the American Association for the Advancement of Science (AAAS) and meet with science institutions to discuss Jordan's plans to host the **World Science Forum 2017 (WSF).** The biennial event, which is being held in the Middle East for the first time, will have the theme of 'Science for Peace', in order to emphasize the need for science to facilitate peace-building at all levels and for all parts of society. RSS has led nascent efforts in Jordan to develop science diplomacy and has worked with the U.S.-based NGO CRDF Global to host a science diplomacy workshop in December 2015 in Amman. While the concept is new to the region, it has many potential benefits for building collaborative research partnerships that cross borders and political divides, and puts more scientific analysis and data in the hands of policymakers. For more on this concept read this blog from RSS staff member, Nart Dohjoka:

Photo credit: Royal Scientific Society. HRH Princess Sumaya bint el Hassan surrounded by participants in the Middle East science diplomacy workshop held in Amman December 2015.

http://www.crdfglobal.org/news-and-events/blog/blog/2016/02/17/7-ideas-for-science-diplomacy-in-the-middle-east

USAID Organizes PEER and MERC Regional Participants Forum

Photo credit: USAID.

Approximately 40 scientists from the region, funded through the U.S. Agency for International Development (USAID) Partnerships for Enhanced Engagement in Research (PEER) and Middle East Research Cooperation (MERC) program, convened in Amman for a March 13-16 workshop. The scientists met with fellow researchers to discuss the state of science in the region in priority areas such as water and renewable energy, and ways to interpret scientific findings for use by policymakers. Presenters encouraged participants to communicate their science to broader audiences and use technology transfer, entrepreneurship, and private-sector partnerships to pursue commercial opportunities from research. Participants honed their communication skills by learning how to pitch their research projects in the form of three-minute "flash talks" to the audience. Both PEER and MERC offer unique funding opportunities for researchers to form collaborative partnerships and engage with their peers in the United States and within the region to develop shared solutions to environmental, agricultural, health, and social science issues.

The MERC Program was established in 1981 to facilitate research collaboration between Arab and Israeli scientists. For more information please visit: https://www.usaid.gov/where-we-work/middle-east/merc , For more information on the PEER program please visit: http://sites.nationalacademies.org/PGA/PEER/index.htm

GIST Promotes Science, Technology and Innovation in Tunis

The U.S. Embassy in Tunis and the Bureau of Oceans and International Environmental and Scientific Affairs (OES) hosted a Global Innovation through Science and Technology (GIST) Startup Boot Camp on January 11-13 in which 19 start-up teams, comprised of 37 young Tunisian entrepreneurs participated in intensive training and learned practical tips to promote their business ideas. Sessions were led by successful U.S. entrepreneur and founder of Priceline.com, Jeff Hoffman, as well as science and technology experts and members of the business and investment community. U. S. Ambassador to Tunisia Daniel Rubinstein in his closing remarks underscored the importance of innovation and entrepreneurship to Tunisia's economic growth. The GIST program empowers young innovators through networking, skill-building, mentoring, and access to financing to develop startup solutions that address economic and development challenges in emerging economies. This is done through competitions, startup boot camps, and inter-active online programs. GIST also runs the annual GIST Tech-I competition, and in 2016 a record breaking,1,000+ applications were received from around the world.

Photo credit: U.S. Embassy Tunis. U.S. Ambassador Rubinstein with Boot Camp Winners, Team *Omnia*

Kabul University Vets Attend Clinical Skills Workshop at JUST

Photo credit: BEP. Kabul University group at JUST

From January 10-14 members of the Kabul University School of Veterinary Medicine attended a clinical skills workshop at the Jordan University for Science and Technology (JUST) School of Veterinary Medicine. The event was sponsored by the Biosecurity Engagement Program (BEP) at the U. S. Department of State and focused on basic techniques and theories for diagnosing, treating, and reporting infectious disease in livestock. The course was run by veterinary experts from Sandia National Laboratories (SNL) in collaboration with Dr. Nabil Hailat, Professor of Veterinary Pathology at JUST. Ten faculty members spanning all disciplines of veterinary medicine at Kabul University attended clinical theory workshops in Amman for the first two days and live animal practical exercises at JUST in Irbid for the final two days. The workshop allowed for productive dialogue regarding common diseases and clinical best practices between Jordan and Afghanistan. These best practices were then applied when the faculty of both universities collaborated with SNL on live cow and sheep exercises at the JUST Veterinary Center. The workshop was well received and highlighted the unique position that JUST holds as a hub for science and technology in the region. For more information on the workshop or additional details about BEP programming, please contact Nathan Green at GreenNS@state.gov.

Photo credit: BEP. Live cow exercise.

Photo credit: Ghaya Alwahdanee. Group photo at PATH organization

Advancing Global Health Security

Ghaya Abdellatif Alwahdanee, Biorisk Management Coordinator at the Jordanian Central Public Health Laboratories (CPHL) recently returned from a visit to the United States with representatives from members in the Global Health Security Agenda (GHSA). We met with Ghaya to discuss her work, current projects, and participation in the health security-focused International Visitors Leadership Program (IVLP).

Ghaya tell us about your role at the CPHL? I coordinate day-to day biorisk activities at the Ministry of Health (MOH) CPHL. The CPHL, is the lead laboratory in Jordan under the MOH responsible for setting biorisk management standards and surveillance for and diagnosing infectious diseases like the Middle East Respiratory Syndrome. I was recently selected by the World Health Organization as the Government of Jordan's biosafety officer for the MENA region. Most recently, I was awarded a grant to work on preventing emerging and re-emerging infections that allowed me and my colleagues the opportunity to develop National Biorisk Guidelines for Jordan.

Photo credit: Ghaya Alwahdanee. Ghaya presented with a diploma

You've recently participated in an International Visitors Leadership Program visit to the United States. Tell us about your visit and what you've learned? It was a great experience! I learned a lot from the program and other participants. I now have a better understanding of the GHSA and the countries involved, their activities and roles. We all have a part to play, collaboration is the way to ensure a world safe and secure from infectious disease threats. During my trip I visited many of the nongovernmental organizations, private sector and government institutions involved in the GHSA, and saw firsthand that through collaboration and knowledge sharing one can achieve so much. The GHSA IVLP addressed: areas of prevention, detection and response to today's global health security risks; emergence and spread of new microbes; globalization of travel and trade; rise of drug resistance; and potential for accidental release, theft or illicit use. I also enjoyed the museums and monuments!

In 2014, The United States Government, together with partners from around the world, launched the GHSA, a multilateral and multi-sectoral initiative of over 40 countries to enhance global capacities to prevent, detect, and rapidly respond to infectious disease threats to achieve measurable targets. The United States has made a commitment to assist at least 30 countries over five years to achieve the targets of the GHSA. For more details on the GHSA and the United States efforts please visit: http://www.cdc.gov/globalhealth/security/index.htm

NASA Engagement in Regional Space Programs

The U.S. National Aeronautics and Space Administration (NASA) has been busy in the Middle East and North Africa, developing collaborative programs with students and counterpart space agencies. Here are some of the highlights:

Mission Hope: The United Arab Emirates Sets its Eyes on the Stars— Officials from the UAE Space Agency met with NASA counterparts several times in Washington and Abu Dhabi throughout 2015 and 2016 to discuss strengthened partnership on current space projects. The UAE launched its space program in 2014 and has set its sights on a mission to Mars in 2020, with the launch of the Hope probe, which would make the UAE the first Arab country to reach the Red Planet.

Photo credit : American Center Jerusalem. Bolden speaking to Jewish and Arab students.

NASA Administrator Charles Bolden led a delegation of NASA officials who participated in the 2015 International Astronautical Congress (IAC) held in Jerusalem. On the margins of the meeting, Bolden signed a new framework agreement between NASA and the Israel Space Agency (ISA) for cooperation in aeronautics and the exploration and use of airspace and outer space for peaceful purposes. Administrator Bolden met with Arab and Israeli students at an event organized by the American Center Jerusalem and then at the Hebrew University Jerusalem. He shared NASA's views on future plans for space exploration, stressing the value of studying and pursuing careers in science, technology, engineering, and mathematics. In an Embassy Tel-Aviv sponsored program, NASA astronaut Sunita Williams addressed Arab and Jewish high school students at Google's headquarters in Tel Aviv. Most of the students present participate in NASA's GLOBE program (Global Learning and Observations to Benefit the Environment), and the GLOBE teachers expressed enthusiasm for an inspiring opportunity to reinforce their students' interest in science and technology education.

Photo credit: ACAO Andy Partridge. Bolden with Hebrew University students.

Jordanian Students participate in the NASA International Internships Program (I^2) Jordan's Office of the Crown Prince signed an International Space Act Agreement with NASA in 2014, making Jordan the first country in the region and one of ten worldwide to have such an agreement with the space agency. Students from around Jordan are selected through a competitive process to attend the NASA International Internship Program (NASA I^2). In 2014, four students were selected and contributed to designing a discovery mission concept to explore the oceans of Europa, one of Jupiter's moons. Here is a YouTube video that shows the students testing the prototype they worked on: www.youtube.com/watch?v=s5Fn7XwtnGE&feature=youtu.be. In 2015, two more students participated in the internship and worked on utilizing commercially-available unmanned aircraft to conduct remote surveys of naturally occurring geomagnetic fields. The students modified experimental aircraft structures to optimize the functionality and effectiveness of the remote sensing software used by unmanned aerial systems.

Photo credit: NASA. Students Zeid Kawar, Firas Mestrihi and Sanad Haddad at ARC.

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And visit the U.S. Embassy Web site in your MENA country.